

# MATERIAL SAFETY DATA SHEET

**SRM Supplier:** National Institute of Standards and Technology  
Standard Reference Materials Program  
Gaithersburg, Maryland 20899

**SRM Number:** 2775  
**MSDS Number:** 2775  
**SRM Name:** Foundry Coke  
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## SECTION I. MATERIAL IDENTIFICATION

**Material Name:** Foundry Coke

**Description:** Coke is the carbonaceous residue of the destructive distillation (carbonization) of bituminous coal, petroleum, and coal tar pitch. This material contains a nominal sulfur concentration of 0.6%. This SRM consists of 50 g of foundry coke that was ground to pass a 60 mesh (250 : m) sieve, homogenized, and bottled under an argon atmosphere.

**Other Designations:** Sulfur in Foundry Coke (coke; breeze coke; blast furnace coke)

**Name**  
Coke

**Chemical Formula**  
complex mixture

**CAS Registration Number**  
65996-77-2

**DOT Classification:** Not regulated by DOT.

**Manufacturer/Supplier:** The foundry coke for this SRM was donated by ABC COKE, Birmingham, AL.

## SECTION II. HAZARDOUS INGREDIENTS

Hazardous Component	Nominal Concentration	Exposure Limits and Toxicity Data
Foundry Coke	100%	OSHA TLV-TWA: 0.2 mg/m <sup>3</sup> *
		ACGIH TLV-TWA: 2 mg/m <sup>3</sup> *

\*benzene soluble fraction

## SECTION III. PHYSICAL/CHEMICAL CHARACTERISTICS

Foundry Coke
<b>Appearance and Odor:</b> A gray to black powder.
<b>Relative Molecular Mass:</b> N/A (complex mixture)
<b>Specific Gravity:</b> 1.9
<b>Solubility in Water:</b> Insoluble in water.

#### SECTION IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point: N/A

Method Used: N/A

Autoignition Temperature: N/A

Flammability Limits in Air (Volume %): UPPER: N/A

LOWER: N/A

**Unusual Fire and Explosion Hazards:** Foundry coke is a negligible fire hazard. Dust/air mixtures may ignite or explode.

**Hazardous Combustion Products:** Thermal decomposition of coke may release toxic oxides of carbon.

#### SECTION V. REACTIVITY DATA

Stability:   X   Stable        Unstable

**Conditions to Avoid:** Avoid heat, sparks, flames and other sources of ignition; avoid contact with incompatible materials.

**Incompatibility (Materials to Avoid):** Coke is incompatible with oxidizing materials.

**Hazardous Polymerization:**        Will Occur   X   Will Not Occur

#### SECTION VI. HEALTH HAZARD DATA

Route of Entry:   X   Inhalation   X   Skin   X   Ingestion

**Health Hazards (Acute and Chronic):** Inhalation of coke may cause chronic *bronchitis* (chronic or acute inflammation of the mucous membrane of the bronchial tubes). The potential for a major chronic inhalation hazard exists from the presence of polynuclear aromatic hydrocarbons, some of which are carcinogenic. Respiratory tract cancers may result from repeated exposures to these polynuclear aromatic hydrocarbons which may be released under certain conditions. Chronic exposures to high levels may also result in mild lung *fibrosis* (the formation of fibrous tissue as a reparative or reactive process). The polynuclear aromatic hydrocarbons may also cause photosensitization of the skin and if chronic eye exposure occurs, it may cause *conjunctivitis*.

**Medical Conditions Generally Aggravated by Exposure:** Heart disorders, kidney problems, respiratory ailments, skin disorders and allergies are aggravated by this material.

**Listed as a Carcinogen/Potential Carcinogen:**

	Yes	No
In the National Toxicology Program (NTP) Report on Carcinogens	<u>      </u>	<u>  X  </u>
In the International Agency for Research (IARC) Monograph	<u>      </u>	<u>  X  </u>
By the Occupational Safety and Health Administration (OSHA)	<u>      </u>	<u>  X  </u>

#### EMERGENCY AND FIRST AID PROCEDURES:

**Skin Contact:** Remove contaminated shoes and clothing. Rinse affected area with large amounts of water followed by washing the area with soap and water. Watch for chemical irritations and treat them accordingly. Contact medical assistance if necessary.

**Eye Contact:** Immediately flush eyes, including under the eyelids, with copious amounts of water for at least 15 minutes. Contact medical assistance if necessary.

**Inhalation:** If inhaled, move the victim to fresh air. If breathing is difficult, give oxygen; if the victim is not breathing, give artificial respiration. Contact medical assistance if necessary.

**Ingestion:** If ingestion occurs, wash out mouth with water. Contact medical assistance if necessary.

**TARGET ORGAN(S) OF ATTACK:** The upper respiratory tract (URT).

#### SECTION VII. PRECAUTIONS FOR SAFE HANDLING AND USE

**Steps to be taken in Case Material is Released or Spilled:** Notify safety personnel of spills. Place recovered material into containers suitable for eventual disposal, reclamation or destruction.

**Waste Disposal:** Follow all federal, state and local laws governing disposal.

**Handling and Storage:** Provide general and local explosion proof ventilation systems to maintain airborne concentrations below the TLV. Provide approved respiratory apparatus for nonroutine or emergency use. Use an approved filter and vapor respirator when the vapor or mist concentrations are high. Wear gloves and chemical safety glasses where contact with high concentrations may occur. An eye wash station and washing facilities should be readily available near handling and use areas. Wash exposed skin areas several times a day with soap and warm water.

**Note:** Contact lenses pose a special problem; soft lenses may absorb irritants and all lenses concentrate them. **DO NOT** wear contact lenses in the laboratory.

#### SECTION VIII. SOURCE DATA/OTHER COMMENTS

**Sources:** MDL Information Systems, Inc., MSDS *Coke*, October 31, 1996.  
Hawley's Condensed Chemical Dictionary, 11th ed., 1987.  
The American Heritage: Stedman's Medical Dictionary, 1995.  
Webster's Ninth New Collegiate Dictionary, 1990.

**Disclaimer:** Physical and chemical data contained in this MSDS are provided only for use in assessing the hazardous nature of the material. The MSDS was prepared carefully, using current references; however, NIST does not certify the data on the MSDS. The certified values for this material are given on the NIST Certificate of Analysis.